

Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

October 1, 2021 – December 31, 2021

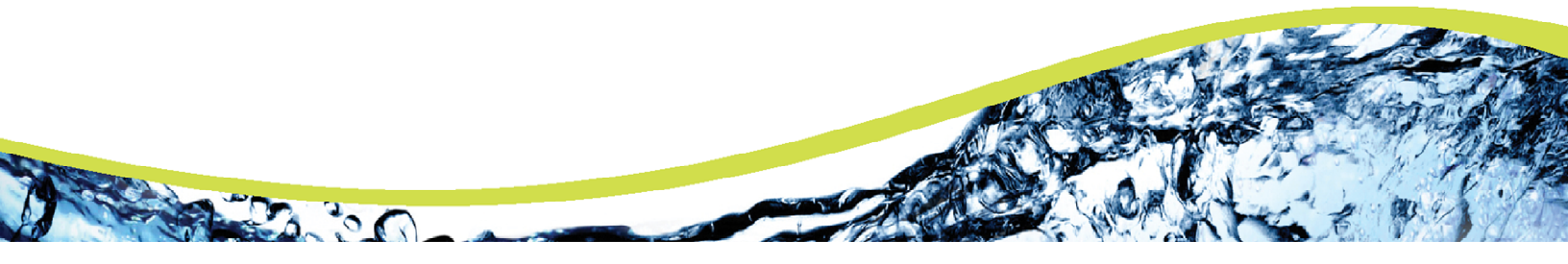


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Section 1 Introduction

1.1 Summary of Reporting Requirements

On May 21, 2014, the City of Columbia (City) entered into a Consent Decree (CD) with the United States Environmental Protection Agency (EPA), the United States Department of Justice (DOJ) and the South Carolina Department of Health and Environmental Control (SCDHEC). To fulfill the reporting requirements as defined in Section IX.39.a of the CD, the City has prepared this *Quarterly Report* that includes the following information (as excerpted from the CD):

1. A description of all projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format. This description shall include completion percentages of early action capital improvement projects under Paragraph 10, continuing sewer assessments under the CSAP, and the subsequent remedial actions under the IR Report;
2. The date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs for the most recently completed quarter in a tabulated electronic format;
3. The anticipated projects and activities that will be performed in the next quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format;
4. Any additional information that demonstrates that Columbia is implementing the remedial measures required in this Consent Decree; and
5. The results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the Consent Decree.

1.2 Report Organization

This Quarterly Report is organized as follows:

Section 1 – Introduction

This section includes a summary of the reporting requirements and describes the report organization.

Section 2 – Schedule of Projects and Activities

This section addresses the requirements of Sections IX.39.a.(i) and IX.39.a.(iii) of the Consent Decree. The section includes the projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of the CD as well as the anticipated projects and activities that will be performed in the next quarter to comply with the requirements of the CD. A Gantt chart schedule

of these activities is provided and includes completion percentages of continuing sewer assessments under the CSAP and the subsequent remedial actions under the IR Report, as applicable.

Section 3 – Additional Information Demonstrating Implementation of Consent Decree Requirements

This section addresses the requirements of Section IX.39.a.(iv) of the Consent Decree and includes additional information that demonstrates that Columbia is implementing the remedial measures required in the CD. Information supplemental to that which is provided in Section 2 is provided in this section.

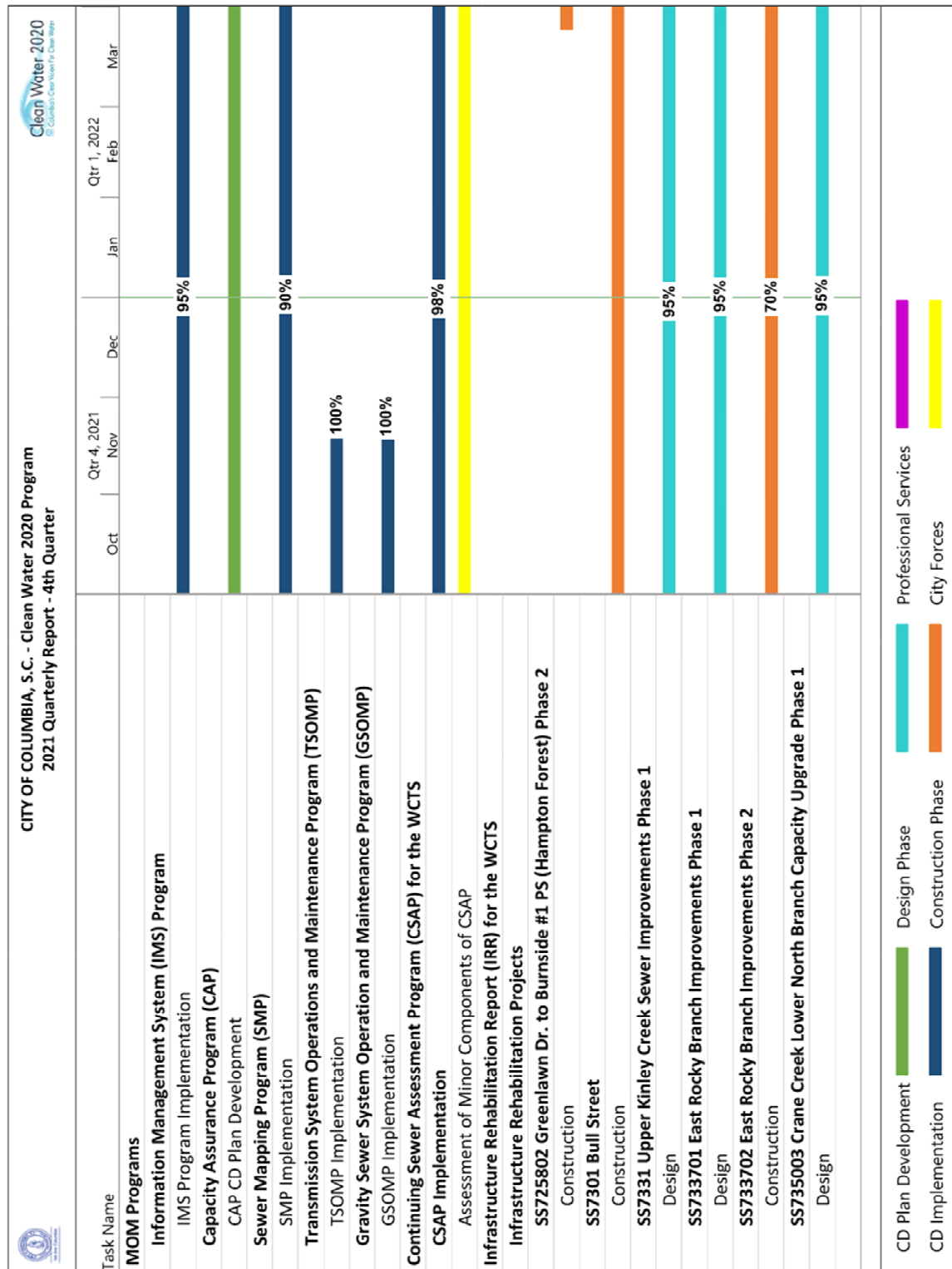
Section 4 – Quarterly SSO Report

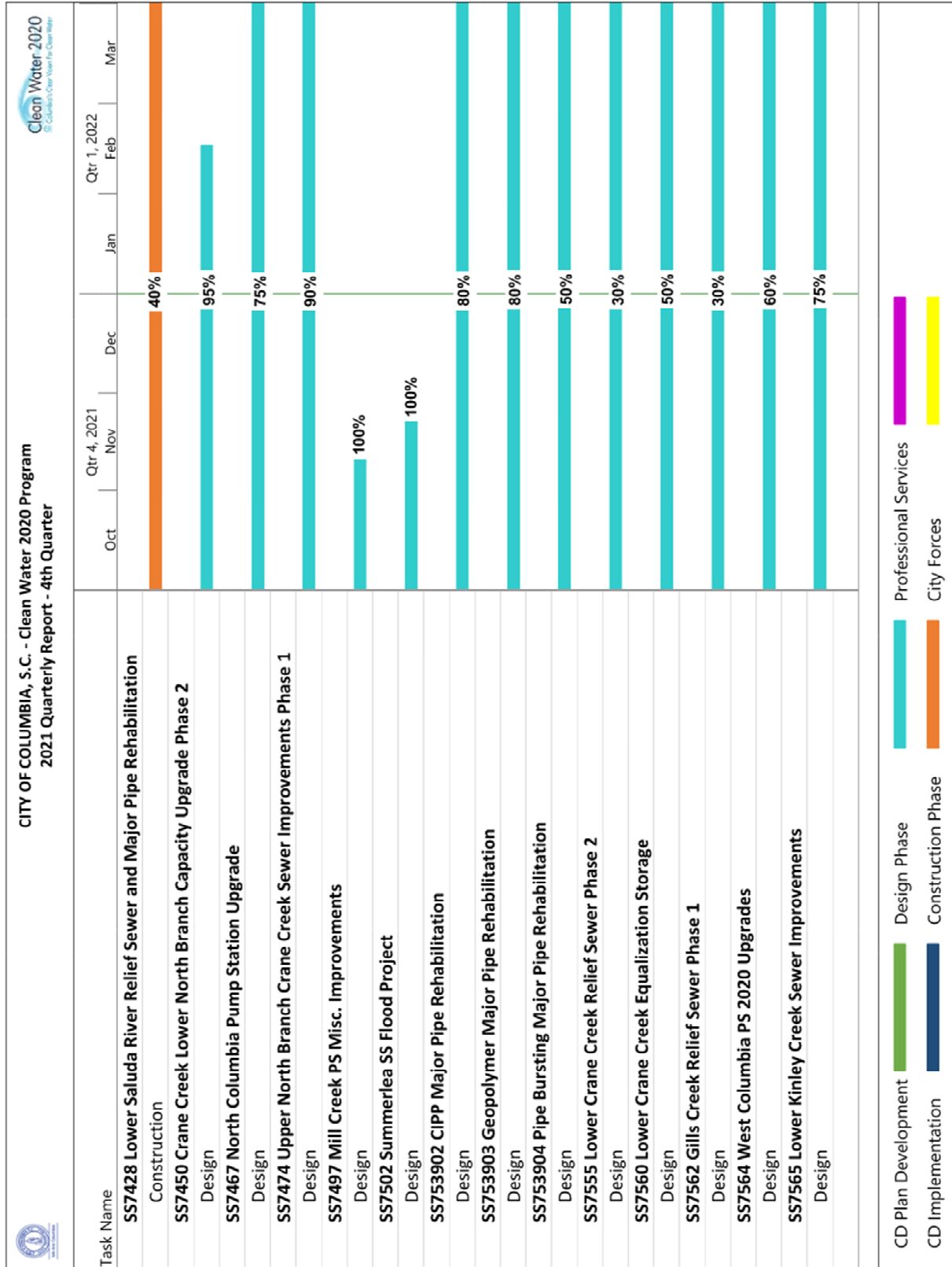
This section addresses the requirements of Section IX.39.a.(ii) of the Consent Decree and provides a tabular listing of sanitary sewer overflows (SSOs). The table includes the date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs that occurred during the most recently completed calendar quarter.

Section 5 – SEP Water Quality Monitoring Results

This section addresses the requirements of Section IX.39.a.(v) of the Consent Decree and provides the results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the CD.

Section 2 Schedule of Projects and Activities









Section 3 Additional Information Demonstrating Implementation of Consent Decree Requirements

In accordance with Section IX.39.a.(iv) of the CD, the following section provides additional information that demonstrates that the City is implementing the remedial measures required in the CD.

3.1 MOM Programs

In accordance with Section V.12 of the CD, the City is developing and implementing specific Management, Operations, and Maintenance (MOM) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP as well as the City's Wastewater Collection and Transmission System (WCTS).

3.1.1 Information Management System (IMS) Program

The IMS Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the IMS Program from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Sewer Mapping Program – 90% Complete

3.1.2 Sewer Mapping Program

In accordance with the requirements of the CD, the City was to develop and submit a Sewer Mapping Program (SMP) to EPA and SCDHEC within 60 days of the date of entry of the CD. The City received final approval of the SMP from EPA and SCDHEC on December 9, 2014.

Projects and significant activities completed during the current reporting period:

- The City continues to complete the electronic mapping of each Sewer Basin in accordance with the approved SMP implementation plan. Progress for each WCTS Minor Gravity Mapping basin is as follows:
 - West Columbia Basin – 100% complete (Mapping complete as of June 9, 2020)
 - Smith Branch Basin – 100% complete (Mapping complete as of June 9, 2021)
 - Saluda River Basin – 100% complete (Mapping complete as of June 9, 2021)
 - Rocky Branch Basin – 100% complete (Mapping complete as of June 9, 2021)
 - Mill Creek Basin – 28% complete
 - Gills Creek Basin – 89% complete
 - Crane Creek Basin – 91% complete
 - Broad River Basin – 47% complete

3.1.3 Transmission System Operations and Maintenance Program (TSOMP)

The TSOMP was submitted to EPA and SCDHEC on May 18, 2015. The City received final approval of the TSOMP from EPA and SCDHEC on September 2, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Force Main and Easement Maintenance (Easement survey and marking and initial clearing to the surveyed limits, where practical) – 100% Complete

As of November 18, 2021, all activities under TSOMP have been completed.

3.1.4 Gravity Sewer System Operation and Maintenance Program (GSOMP)

The GSOMP was submitted to EPA and SCDHEC on November 20, 2015. The City received final approval of the GSOMP from EPA and SCDHEC on May 23, 2016. The GSOMP was revised and resubmitted to EPA and SCDHEC on May 8, 2019.

The activities completed or in progress during the current reporting period are as follows:

- Gravity Sewer Easement survey and marking and initial clearing to survey the limits, where practical – 100% Complete

As of November 18, 2021, all activities under GSOMP have been completed.

3.2 Continuing Sewer Assessment Program (CSAP) for the WCTS

The CSAP was submitted to EPA and SCDHEC on June 9, 2015. The City received final approval of the CSAP from EPA and SCDHEC on May 23, 2016. The CSAP was revised and resubmitted to EPA and SCDHEC on October 3, 2018. The City received approval of the revised CSAP from EPA and SCDHEC on February 6, 2019.

The activities under the Minor Components of the CSAP completed or in progress during the current reporting period are as follows:

- Minor Gravity Sewer and Manholes Condition Assessment – 93% Complete
- Minor Pump Stations Condition Assessment – 93% Complete
- Minor Force Mains Field Assessment – 93% Complete

3.3 Infrastructure Rehabilitation Report (IRR) for the WCTS

In accordance with Section V.16 of the CD, the City shall submit an Infrastructure Rehabilitation Report (IRR) summarizing the results of the CSAP of the major components of the WCTS and a description of proposed rehabilitation projects. The IRR was submitted to EPA and SCDHEC on November 22, 2019. The City is awaiting EPA and SCDHEC review and approval of the IRR.

As rehabilitation projects are identified through the assessments described in Section 3.2 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS725802 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) Phase 2 – Construction 0% Complete
- SS7301 Bull Street – Construction in Progress; a completion percentage cannot be provided due to a varying scope of work and timeline for this project.
- SS7331 Upper Kinley Creek Sewer Improvements Phase 1 – Design 95% Complete
- SS733701 East Rocky Branch Improvements Phase 1 – Design 95% Complete
- SS733702 East Rocky Branch Improvements Phase 2 – Construction 70% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 – Design 95% Complete
- SS7428 Lower Saluda River Relief Sewer and Major Pipe Rehabilitation – Construction 40% Complete
- SS7450 Crane Creek Lower North Branch Capacity Upgrade Phase 2 – Design 95% Complete
- SS7467 North Columbia Pump Station Upgrade – Design 75% Complete
- SS7474 Upper North Branch Crane Creek Sewer Improvements Phase 1 – Design 90% Complete
- SS7497 Mill Creek Pump Station Miscellaneous Improvements – Design 100% Complete
- SS7502 Summerlea SS Flood Project – Design 100% Complete
- SS753902 CIPP Major Pipe Rehabilitation – Design 80% Complete
- SS753903 Geopolymer Major Pipe Rehabilitation – Design 80% Complete
- SS753904 Pipe Bursting Major Pipe Rehabilitation – Design 50% Complete
- SS7555 Lower Crane Creek Relief Sewer Phase 2 – Design 30% Complete
- SS7560 Lower Crane Creek Equalization Storage – Design 50% Complete
- SS7562 Gills Creek Relief Sewer Phase 1 – Design 30% Complete
- SS7564 West Columbia Pump Station Improvements – Design 60% Complete
- SS7565 Lower Kinley Creek Sewer Improvements – Design 75% Complete
- SS7568 Saluda River Force Main Extension – Design 60% Complete
- SS7589 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements – Design 70% Complete

In accordance with Section V.16.c of the CD, the City shall submit a Supplemental Infrastructure Rehabilitation Report (SIRR) which shall update all portions of the IRR to reflect additional information developed by the City through completion of the CSAP of the minor components of the WCTS. The SIRR

is to be submitted within six months after the City has assessed the remainder of the entire WCTS pursuant to the CSAP. As rehabilitation projects are identified through the assessments described in Section 3.2 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS6786 Annual Gravity Sewer Manhole Lining and Replacement – FY2021 Construction 20% Complete
- SS6966 Annual Rehab on Lines less than 15" – FY2021 Construction 40% Complete
- SS7363 Smith Branch 03 SSES – Construction 80% Complete
- SS7424 SSES and Sewer Rehabilitation Implementation BR02 – Design 100% Complete
- SS7425 SSES and Sewer Rehabilitation Implementation RB03 – Construction 80% Complete
- SS7432 Starlite PS Decommissioning and Basin Rehabilitation Related Works – Design 90% Complete
- SS7435 Wexford and Windsong Lift Stations Evaluation and Rehabilitation Project – Design 95% Complete
- SS7437 Miscellaneous Lift Station Improvements and Backup Power Addition Project – Design 99% Complete
- SS7462 Investigation of Crockett Road, Atlas Road and Versch Lock Lift Stations – Design 70% Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 – Design 95% Complete
- SS7464 SSES and Sewer Rehabilitation Implementation CC02 and CC04 – Design 100% Complete
- SS7468 Three Rivers Force Main Replacement – Design 95% Complete
- SS7478 Rocky Branch 01 SSES Phase 2 – Design 95% Complete
- SS7479 Smith Branch 02 SSES Phase 2 – Design 95% Complete
- SS7487 Hickory Ridge Drive Sewer Rehab – Design 97% Complete
- SS7535 Olympia Sanitary Sewer Relocation and Rehabilitation – Design 50% Complete
- SS7546 Mallard Pointe Force Main Replacement – Construction 0% Complete
- SS7547 Yacht Cove Force Main Replacement – Construction 0% Complete
- SS7549 Woodlands Force Main Replacement – Design 99% Complete
- SS7554 Harbison #4 Pump Station Improvements and Force Main Replacement – Design 30% Complete
- SS7583 Saluda River 02 Engineer Led Find and Fix Rehabilitation – Construction 0% Complete

3.4 Sewer System Hydraulic Model

The Hydraulic Model Report was submitted to EPA and SCDHEC on August 21, 2020. The City is awaiting EPA and SCDHEC review and approval of the Hydraulic Model Report.

Section 4 Quarterly SSO Report

In accordance with Section IX.39.a.(ii) of the CD, the City is to provide a list of all SSOs that occurred during the reporting period in a tabular format along with information on the date, time, location, source, duration, estimated volume, receiving water, cause, and actions taken to resolve the SSO.

Table 1 – SSO Report, 4th Quarter 2021

City of Columbia, SC Quarterly SSO Listing 4th Quarter 2021									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
10/9/2021	10:35	1347 Fork Ave, Irmo, SC 29063	Manhole	10/11/2021	10:19	875	Koon Branch	Grease	Removed Blockage To Resume Normal Flow. Line Has Been Added To PM Wash List.
10/12/2021	22:22	921 Marlboro St, Columbia, SC 29201	Manhole	10/21/2021	14:54	106		Grease	Removed Blockage To Resume Normal Flow. Line Added To The PM Wash List.
10/12/2021	14:30	5306 Linden St, Columbia, SC 29203	Manhole	TBD		350		Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair To Be Done.
10/13/2021	08:30	5306 Linden St, Columbia, SC 29203	Manhole	10/13/2021	09:30	300		Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair.
10/13/2021	13:30	7467 Saint Andrews Rd, Irmo, SC 29063	Cleanout	10/15/2021	12:49	205	Retention Pond	3rd Party Responsibility	Service Line Wash To Remove Blockage. Service Line Rodded To Remove Gravel/Stub Up Repaired.
10/20/2021	12:00	1315 Ehrlich St, Columbia, SC 29201	Cleanout	10/20/2021	12:30	5	Storm Water Ditch	Debris	Removed Blockage To Resume Normal Flow. Washed Service Line To Remove Broken Cleanout Cap.
10/25/2021	16:00	6127 Kemberly St, Columbia, SC 29209	Cleanout	10/25/2021	17:15	10		Debris	Washed, Root Cut And Chain Cut Service Line 10 Feet To Resume Normal Flow. Service Line Wash To Remove Debris.
10/31/2021	09:50	131 Fifeshire Dr, Columbia, SC 29212	Cleanout	11/30/2021	13:26	1007	Rawls Creek	Collapsed Line	Main Line Wash To Remove Blockage And Resume Normal Flow. Manhole Repair To Remove Intruding Liner.
11/1/2021	19:36	1009 Gardendale Dr, Columbia, SC 29210	Cleanout	11/2/2021	12:00	29		Collapsed Line	Service Line Wash And Root Cut. Unable To Clear Line. Emergency Service Line Repair.
11/3/2021	22:22	1900 Kathleen Dr, Columbia, SC 29210	Other	11/6/2021	09:00	60		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair.
11/15/2021	11:30	186 Waterford Dr, Columbia, SC 29203	Line Segment	11/16/2021	12:00	1190	Trib To Crane Creek	Collapsed Line	Removed Blockage To Resume Normal Flow. Main Line Repair.
11/21/2021	16:30	1402 Jim Hamilton Blvd, Columbia, SC 29205	Manhole	11/21/2021	0:00	153		Debris	Removed Blockage To Resume Normal Flow. Washed Main Line To Remove Blockage.
11/23/2021	11:00	7441 College St, Irmo, SC 29063	Force Main	11/23/2021	17:30	195	Storm Drain	Collapsed Line	Force Main Repair.
11/23/2021	09:36	1721 Shivers Rd, Columbia, SC 29210	Manhole	TBD		4081	Unnamed Trib To Broad River	Roots	Main Line Wash To Remove Blockage And Resume Normal Flow. Manhole Wash And Main Line Repair To Be Done.
12/2/2021	16:45	3201 Meadowlark Dr, Columbia, SC 29204	Manhole	12/2/2021	18:00	560	Trib To Eightmile Branch	Debris	Removed Blockage To Resume Normal Flow. Washed Main Line 80 Feet To Remove Blockage.
12/4/2021	16:00	505 Winding Way, Columbia, SC 29212	Cleanout	1/4/2022	19:00	15		Collapsed Line	Removed Blockage To Resume Normal Flow. Cleanout Repair.
12/5/2021	16:00	5010 Burke Ave, Columbia, SC 29203	Cleanout	TBD		575	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Repair To Be Done.
12/5/2021	17:50	300 Hickory Ridge Rd, Columbia, SC 29209	Manhole	12/6/2021	12:00	57850	Trib To Lake Rebecca	3rd Party Responsibility	Main Line Wash To Remove Blockage To Resume Normal Flow. Contractor Removed And Replaced Broken Flow Meter That Caused The SSO.
12/8/2021	16:48	426 Veterans Rd, Columbia, SC 29209	Cleanout	TBD		10		Roots	Removed Blockage To Resume Normal Flow. Service Line Tap Renewal To Be Done.
12/8/2021	20:35	3825 Padgett Rd, Columbia, SC 29209	Cleanout	1/4/2022	12:00	10		Debris	Removed Blockage To Resume Normal Flow. Cut Gasket From Tap To Prevent Debris Build Up.

City of Columbia, SC Quarterly SSO Listing 4th Quarter 2021									
Date	Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
12/12/2021	19:00	801 Albion Rd, Columbia, SC 29205	Cleanout	12/16/2021	10:00	900	Storm Drain	Collapsed Line	Service Line Wash Attempted To Remove Blockage. Cleanout And Service Line Repair.
12/13/2021	17:17	2111 Georgia Elam Ln, Columbia, SC 29204	Cleanout	12/13/2021	12:15	49		Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line Cleanout Repair.
12/15/2021	12:13	825 Garland St, Columbia, SC 29201	Manhole	12/15/2021	12:13	10	Storm Drain	Grease	Washed Main Line To Resume Normal Flow. Washed Main Line 200 Feet, Removed Blockage.
12/15/2021	16:30	5026 Burke Ave, Columbia, SC 29203	Other	12/17/2021	12:00	18		Collapsed Line	Emergency Service Line Repair And Install Cleanout.
12/16/2021	16:15	3114 Montcrest Rd, Columbia, SC 29210	Cleanout	12/16/2021	16:30	216	Storm Drain	Collapsed Line	Washed Service Line To Resume Normal Flow. Service Line And Cleanout Repair.
12/23/2021	17:17	5006 Brickyard Rd, Columbia, SC 29203	Cleanout	TBD		226	Storm Water Ditch	Roots	Removed Blockage To Resume Normal Flow. Main Line Root Cut And Liner To Be Installed.
12/23/2021	11:00	2601 Millwood Ave, Columbia, SC 29205	Cleanout	TBD		10	Storm Drain	3rd Party Responsibility	Removed Blockage To Resume Normal Flow. Cut Liner To Fully Reinstall Tap To Be Done.
12/27/2021	08:30	23 Catesby Cir, Columbia, SC 29206	Other	TBD		13	Storm Drain	Collapsed Line	Removed Blockage To Resume Normal Flow. Service Line CIPP To Be Done.
12/28/2021	10:39	935 Sandpiper Ln, Columbia, SC 29203	Manhole	TBD		115	Storm Drain	Roots	Main Line Wash To Remove Blockage And Resume Normal Flow. Main Line CIPP Liner To Be Done.
12/29/2021	14:00	831 Easter St, Columbia, SC 29203	Cleanout	TBD		10	Storm Drain	Grease	Removed Blockage To Resume Normal Flow. PM Wash For Mainlines And Service Line To Be Done.
12/30/2021	06:50	5200 Bluff Rd, Columbia, SC 29209	Manhole	12/30/2021	7:00	86920	Reeder Point Branch	Pump Station Failure	Reset The Pump That Tripped Out. Returned Pumps That Were Being Cleaned Back Into Operation.
12/31/2021	16:30	904 Woodale Cir, Columbia, SC 29203	Cleanout	TBD		5	Storm Drain	Roots	Removed Blockage To Resume Normal Flow. Service Line CIPP To Be Done.

As noted in Section IV.8.a of the CD, a Building Backup is defined as a release of wastewater into a building or onto private property that is caused by blockages, flow conditions, or other malfunctions in the WCTS.

No building backups were identified within the City's system for the current reporting period.

Section 5 SEP Water Quality Monitoring Results

In accordance with Section IX.39.a.(v) of the CD, the following section provides a summary of the results of water quality monitoring conducted during the previous calendar quarter as part of the Supplemental Environmental Project (SEP) described in Appendix I of the CD.

5.1 Sampling Conducted and Results

As a part of the SEP requirements established in Section VIII and Appendix I of the CD, the City is to conduct water quality monitoring at three locations to assist in evaluation of the environmental benefits of the SEP in improving water quality in Smith Branch and Gills Creek. The City is to implement a program for ambient monitoring of dissolved oxygen (DO), total suspended solids (TSS), temperature, and E. coli at the following monitoring sites:

- Gills Creek at Garner's Ferry Road
- Smith Branch at North Main Street
- Gills Creek at Bluff Road

In accordance with the requirements of the CD, the City was to submit a Quality Assurance Project Plan (QAPP) to SCDHEC within 60 days of the date of entry of the CD. The City originally submitted the QAPP to SCDHEC on July 18, 2014 in advance of the deliverable deadline. The City subsequently received comments from SCDHEC and resubmitted the QAPP to SCDHEC on January 13, 2015. The City received final approval of the QAPP from EPA and SCDHEC on January 15, 2016. The QAPP was revised and resubmitted to SCDHEC on May 31, 2017 and on December 19, 2018 to reflect changes in City personnel. The revised QAPP was approved on January 9, 2019. The QAPP was subsequently revised and resubmitted to SCDHEC on January 22, 2019 to reflect a change in the testing laboratory. Following comments from SCDHEC and additional resubmittals, the City received approval of the revised QAPP from EPA and SCDHEC on April 2, 2019.

The City monitored quarterly for the first three years under the CD (through January 15, 2019) and monthly for years four through six under the CD (through January 15, 2022). The water quality monitoring completed on January 05, 2022 fulfills the City's obligations under the SEP; a supplement to the previously approved SEP Completion Report will be provided with a summary of the Water Quality Monitoring results.

Water quality monitoring for 2021 Q4 was completed on November 2, 2021, December 3, 2021, and January 05, 2022. Monitoring results are provided below for the following samples:

- C-001: Gills Creek at Garner's Ferry Road
- B-280: Smith Branch at North Main Street
- C-017: Gills Creek at Bluff Road

City of Columbia Quality Assurance Project Plan (QAPP) Data

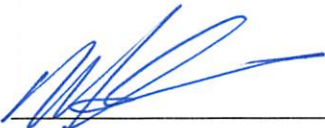
Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 11/2/21

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Project Verifier/QA Manager

11/3/2021
Date

Miranda Staples
Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.



Project Manager/Project Validator

11/3/21
Date

AJ Jessee
Printed Name



Rogers & Callcott
ENVIRONMENTAL



Laboratory Services

Laboratory Report

Client	Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210	Project:	Water Quality Testing
		Work Order:	1101121
		Received:	10/20/2021 09:58

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on October 20, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Bailey Branham, your Project Manager, at bbranham@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Bailey Branham
Project Manager



Certificate of Analysis

*South Carolina Greenville Laboratory Identification 23105
South Carolina Columbia Laboratory Identification 40572
North Carolina Laboratory Certification Number 27
North Carolina Drinking Water Lab Number 45710
NELAP Utah Certificate Number SC000042014-1
Georgia Drinking Water Lab ID 880*

Client
Woolpert Inc. - City of Columbia
Michael Long
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1101121
Received: 10/20/2021 09:58

Sample Number	Sample Description	Matrix	Sampled	Type
1101121-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	10/20/21 08:37	Grab
1101121-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	10/20/21 08:30	Grab
1101121-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	10/20/21 08:35	Grab
1101121-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	10/20/21 09:13	Grab
1101121-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	10/20/21 09:05	Grab
1101121-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	10/20/21 09:10	Grab
1101121-07	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	10/20/21 09:37	Grab
1101121-08	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	10/20/21 09:30	Grab
1101121-09	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	10/20/21 09:35	Grab



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1101121
Reported: 11/02/21 16:51

Sample Data

Sample Number 1101121-01
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 10/20/21 08:37

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	8.2	0.1	mg/L	1.00	10/20/21 08:37	SM 4500 OG-2011		CDT	B1J1033	RC-C
Grab	Complete				10/20/21 08:37	Grab		CDT	B1J1033	RC-C
Temperature	16.2	0.0	°C	1.00	10/20/21 08:37	SM 2550B-2010		CDT	B1J1033	RC-C

Sample Number 1101121-02
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 10/20/21 08:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	1.2	1.0	mg/L	1.00	10/26/21 15:50	SM 2540D-2011		SMN	B1J1238	RC-C

Sample Number 1101121-03
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 10/20/21 08:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	126	20	MPN/100 mL	20.0	10/20/21 15:05	SM 9223B-2004		MBW	B1J1258	RC-C

Sample Number 1101121-04
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 10/20/21 09:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	8.4	0.1	mg/L	1.00	10/20/21 09:13	SM 4500 OG-2011		CDT	B1J1033	RC-C
Grab	Complete				10/20/21 09:13	Grab		CDT	B1J1033	RC-C
Temperature	16.7	0.0	°C	1.00	10/20/21 09:13	SM 2550B-2010		CDT	B1J1033	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1101121
Reported: 11/02/21 16:51

Sample Number 1101121-05
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 10/20/21 09:05

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	12.2	2.2	mg/L	2.22	10/26/21 15:50	SM 2540D-2011		SMN	B1J1238	RC-C

Sample Number 1101121-06
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 10/20/21 09:10

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	170	20	MPN/100 mL	20.0	10/20/21 15:05	SM 9223B-2004		MBW	B1J1258	RC-C

Sample Number 1101121-07
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 10/20/21 09:37

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	7.7	0.1	mg/L	1.00	10/20/21 09:37	SM 4500 OG-2011		CDT	B1J1033	RC-C
Grab	Complete				10/20/21 09:37	Grab		CDT	B1J1033	RC-C
Temperature	17.1	0.0	°C	1.00	10/20/21 09:37	SM 2550B-2010		CDT	B1J1033	RC-C

Sample Number 1101121-08
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 10/20/21 09:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	10.7	1.3	mg/L	1.33	10/26/21 15:50	SM 2540D-2011		SMN	B1J1238	RC-C

Sample Number 1101121-09
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 10/20/21 09:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	150	20	MPN/100 mL	20.0	10/20/21 15:05	SM 9223B-2004		MBW	B1J1258	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1101121
Reported: 11/02/21 16:51

Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit
NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105
RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572



WORK ORDER 10122

WORK ORDER 10122

215B Stoneridge Drive
Columbia, SC 29210
Phone (803) 509-8999

mbia
uite 2200
com
Project # Water Quality Testing

[illegible]

SAMPLER - RELINQUISHED BY: 1. <i>[Signature]</i>	DATE/TIME: <i>10/20/21/0858</i>	RECEIVED BY: <i>[Signature]</i> 2. <i>[Signature]</i>
RELINQUISHED BY: 3.	DATE/TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE/TIME:	RECEIVED BY: 6.
RELINQUISHED BY: 7.	DATE/TIME:	RECEIVED BY: 8.

Possible Hazards associated with samples:

☐ Non-Hazard ☐ Flammable

☐ Skin Irritant

☐ Unknown

☐ Other:

Form Revised March, 2019 Page _____ of _____

Page 6 of 9

215B Stoneridge Drive
Columbia, SC 29210
Phone (803) 509-8999

Project # Water Quality Testing

[illegible]

Form Revised March, 2019 Page _____ of _____



Columbia Sample Receipt Verification

Client: Wolpert Date Received: 10/20/21 Work Order: 1101121

Carrier Name: (to Columbia)	Client	FedEx	UPS	US Mail	Courier	<u>Field Services</u>	Other: _____
Tracking Number: _____							

Carrier Name: (to Greenville)	Client	FedEx	UPS	US Mail	Courier	Field Services	Other: _____
----------------------------------	--------	-------	-----	---------	---------	----------------	--------------

Receipt Criteria	Yes	No	N/A	Comments
Shipping container / cooler intact?	☒			Damaged Leaking Other: _____
Custody seals intact?			☒	
COC included with samples?	☒			
COC signed when relinquished and received?	☒			
Sample bottles intact?	☒			Damaged Leaking Other: _____
Sample ID on COC agree with label on bottle(s)?	☒			
Date / time on COC agree with label on bottle(s)?	☒			
Number of bottles on COC agrees with number of bottles received?	☒			
Samples received within holding time?	☒			
Sample volume sufficient for analysis?	☒			
VOA vials free of headspace (<6mm bubble)?			☒	
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.			☒	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.	☒			
Samples cooled when received in Columbia?	Temp at time of receipt <u>26</u> °C Temp measured with IR SN: 36301069WS	☒		<u>Ice</u> Cold Packs Dry Ice None

If in-house preservation used – record Lot #			
HCL		H ₃ PO ₄	
H ₂ SO ₄		NaOH	
HNO ₃		Other	

Comments:

Were non-conformance issues noted at initial sample receipt? Yes or <u>No</u>
Non-Conformance issue other than noted above:

City of Columbia Quality Assurance Project Plan (QAPP) Data

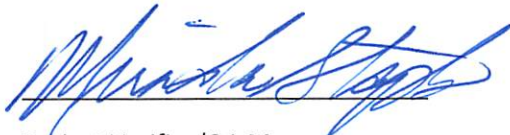
Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 12/13/21

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Project Verifier/QA Manager

12/13/2021

Date

Miranda S. Staples

Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.



Project Manager/Project Validator

12/13/21

Date

AJ Jesser

Printed Name



Rogers & Callcott
ENVIRONMENTAL



Laboratory Services

Laboratory Report

Client	Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210	Project:	Water Quality Testing
		Work Order:	1111305
		Received:	11/22/2021 13:35

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on November 22, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Bailey Branham, your Project Manager, at bbranham@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Bailey Branham
Project Manager



Certificate of Analysis

*South Carolina Greenville Laboratory Identification 23105
South Carolina Columbia Laboratory Identification 40572
North Carolina Laboratory Certification Number 27
North Carolina Drinking Water Lab Number 45710
NELAP Utah Certificate Number SC000042014-1
Georgia Drinking Water Lab ID 880*

Client Woolpert Inc. - City of Columbia
Michael Long
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1111305
Received: 11/22/2021 13:35

Sample Number	Sample Description	Matrix	Sampled	Type
1111305-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/22/21 10:40	Grab
1111305-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/22/21 10:35	Grab
1111305-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	11/22/21 10:38	Grab
1111305-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/22/21 12:15	Grab
1111305-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/22/21 12:10	Grab
1111305-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	11/22/21 12:12	Grab
1111305-07	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/22/21 12:55	Grab
1111305-08	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/22/21 12:50	Grab
1111305-09	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	11/22/21 12:52	Grab



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1111305
Reported: 12/03/21 15:51

Sample Data

Sample Number 1111305-01
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 11/22/21 10:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	8.0	0.1	mg/L	1.00	11/22/21 10:40	SM 4500 OG-2011		CDT	B1K1126	RC-C
Grab	Complete				11/22/21 10:40	Grab		CDT	B1K1126	RC-C
Temperature	15.0	0.0	°C	1.00	11/22/21 10:40	SM 2550B-2010		CDT	B1K1126	RC-C

Sample Number 1111305-02
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 11/22/21 10:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	64.0	4.0	mg/L	4.00	11/23/21 16:00	SM 2540D-2011		SMN	B1K1180	RC-C

Sample Number 1111305-03
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 11/22/21 10:38

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	5510	20	MPN/100 mL	20.0	11/22/21 14:28	SM 9223B-2004		MBW	B1K1345	RC-C

Sample Number 1111305-04
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 11/22/21 12:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	9.3	0.1	mg/L	1.00	11/22/21 12:15	SM 4500 OG-2011		CDT	B1K1126	RC-C
Temperature	14.6	0.0	°C	1.00	11/22/21 12:15	SM 2550B-2010		CDT	B1K1126	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1111305
Reported: 12/03/21 15:51

Sample Number 1111305-05
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 11/22/21 12:10

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	5.3	1.0	mg/L	1.00	11/23/21 16:00	SM 2540D-2011		SMN	B1K1180	RC-C

Sample Number 1111305-06
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 11/22/21 12:12

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	1710	20	MPN/100 mL	20.0	11/22/21 14:28	SM 9223B-2004		MBW	B1K1345	RC-C

Sample Number 1111305-07
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 11/22/21 12:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	8.3	0.1	mg/L	1.00	11/22/21 12:55	SM 4500 OG-2011		CDT	B1K1126	RC-C
Temperature	13.9	0.0	°C	1.00	11/22/21 12:55	SM 2550B-2010		CDT	B1K1126	RC-C

Sample Number 1111305-08
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 11/22/21 12:50

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	3.9	1.0	mg/L	1.00	11/23/21 16:00	SM 2540D-2011		SMN	B1K1180	RC-C

Sample Number 1111305-09
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 11/22/21 12:52

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	172	20	MPN/100 mL	20.0	11/22/21 14:28	SM 9223B-2004		MBW	B1K1345	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1111305
Reported: 12/03/21 15:51

Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit
NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105
RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572



Form Revised March, 2019 Page _____ of _____



215B Stoneridge Drive
Columbia, SC 29210
Phone (803) 509-8999

Project # Water Quality Testing

11363 11.2.21

[illegible]



CHAIN OF CUSTODY RECORD



50
years

Rogers & Callcott
ENVIRONMENTAL

Half a century of commitment and quality

PO #	Project #	Water Quality Testing

[illegible]

SAMPLE#	RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
1.	<i>[Signature]</i>	11/22/21 1335	2. Jt m. 2
3.		DATE/TIME:	RECEIVED BY: 4.
5.		DATE/TIME:	RECEIVED BY: 6.
7.		DATE/TIME:	RECEIVED BY: 8.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant

[illegible]

Form Revised March, 2019 Page _____ of _____



Columbia Sample Receipt Verification

Client: Woolpert Date Received: 11/22/21 Work Order: 1111305

Carrier Name: (to Columbia)	Client	FedEx	UPS	US Mail	Courier	<u>Field Services</u>	Other: _____
Tracking Number: _____							

Carrier Name: (to Greenville)	Client	FedEx	UPS	US Mail	Courier	Field Services	Other: _____
----------------------------------	--------	-------	-----	---------	---------	----------------	--------------

Receipt Criteria	Yes	No	N A	Comments
Shipping container / cooler intact?	☒			Damaged Leaking Other:
Custody seals intact?			☒	
COC included with samples?	☒			
COC signed when relinquished and received?	☒			
Sample bottles intact?	☒			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	☒			
Date / time on COC agree with label on bottle(s)?	☒			
Number of bottles on COC agrees with number of bottles received?	☒			
Samples received within holding time?	☒			
Sample volume sufficient for analysis?	☒			
VOA vials free of headspace (<6mm bubble)?			☒	
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.			☒	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.	☒			
Samples cooled when received in Columbia ?	Temp at time of receipt <u>2.9</u> °C Temp measured with IR SN: 36301069WS	☒		<u>Ice</u> Cold Packs Dry Ice None

If in-house preservation used – record Lot #			
HCL		H ₃ PO ₄	
H ₂ SO ₄		NaOH	
HNO ₃		Other	

Comments:

Were non-conformance issues noted at initial sample receipt?	Yes	or	<u>No</u>
Non-Conformance issue other than noted above:			

City of Columbia Quality Assurance Project Plan (QAPP) Data

Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP

November 2015, Revised May 2017, Revised December 2018, Revised January 2019

Laboratory Report Date: 1/5/22

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Project Verifier/QA Manager

1/18/2022
Date

Miranda Staples
Printed Name

The undersigned validates the data in the above referenced report, per the QAPP requirements.



Project Manager/Project Validator

1/18/22
Date

AJ Jesse
Printed Name



Rogers & Callcott
ENVIRONMENTAL



Laboratory Services

Laboratory Report

Client	Woolpert Inc. - City of Columbia Michael Long 2000 Center Point Road Ste 2200 Columbia, SC 29210	Project:	Water Quality Testing
		Work Order:	1121272
		Received:	12/20/2021 15:25

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on December 20, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Bailey Branham, your Project Manager, at bbranham@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Trevor Gauron

Report Approved By:

Bailey Branham
Project Manager



Certificate of Analysis

*South Carolina Greenville Laboratory Identification 23105
South Carolina Columbia Laboratory Identification 40572
North Carolina Laboratory Certification Number 27
North Carolina Drinking Water Lab Number 45710
NELAP Utah Certificate Number SC000042014-1
Georgia Drinking Water Lab ID 880*

Client
Woolpert Inc. - City of Columbia
Michael Long
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1121272
Received: 12/20/2021 15:25

Sample Number	Sample Description	Matrix	Sampled	Type
1121272-01	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/20/21 13:35	Grab
1121272-02	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/20/21 13:30	Grab
1121272-03	DHEC B-280 Smith Branch @ N. Main St	Wastewater	12/20/21 13:33	Grab
1121272-04	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/20/21 14:45	Grab
1121272-05	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/20/21 14:40	Grab
1121272-06	DHEC C-001 Gills Creek @ Garners Ferry Rd	Wastewater	12/20/21 14:43	Grab
1121272-07	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/20/21 14:15	Grab
1121272-08	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/20/21 14:10	Grab
1121272-09	DHEC C-017 Gills Creek @ Bluff Road	Wastewater	12/20/21 14:13	Grab



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1121272
Reported: 01/05/22 17:18

Sample Data

Sample Number 1121272-01
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 12/20/21 13:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	10.1	0.1	mg/L	1.00	12/20/21 13:35	SM 4500 OG-2011		CDT	B1L1041	RC-C
Grab	Complete				12/20/21 13:35	Grab		CDT	B1L1041	RC-C
Temperature	12.0	0.0	°C	1.00	12/20/21 13:35	SM 2550B-2010		CDT	B1L1041	RC-C

Sample Number 1121272-02
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 12/20/21 13:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	3.8	1.0	mg/L	1.00	12/21/21 14:30	SM 2540D-2011		SMN	B1L1078	RC-C

Sample Number 1121272-03
Sample Description DHEC B-280 Smith Branch @ N. Main St collected on 12/20/21 13:33

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	538	10	MPN/100 mL	10.0	12/20/21 15:49	SM 9223B-2004		BNE	B1L1107	RC-C

Sample Number 1121272-04
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 12/20/21 14:45

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	10.0	0.1	mg/L	1.00	12/20/21 14:45	SM 4500 OG-2011		CDT	B1L1041	RC-C
Temperature	11.8	0.0	°C	1.00	12/20/21 14:45	SM 2550B-2010		CDT	B1L1041	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1121272
Reported: 01/05/22 17:18

Sample Number 1121272-05
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 12/20/21 14:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	13.7	2.9	mg/L	2.86	12/21/21 14:30	SM 2540D-2011		SMN	B1L1078	RC-C

Sample Number 1121272-06
Sample Description DHEC C-001 Gills Creek @ Garners Ferry Rd collected on 12/20/21 14:43

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	573	10	MPN/100 mL	10.0	12/20/21 15:49	SM 9223B-2004		BNE	B1L1107	RC-C

Sample Number 1121272-07
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 12/20/21 14:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Field Parameters										
Dissolved Oxygen	9.1	0.1	mg/L	1.00	12/20/21 14:15	SM 4500 OG-2011		CDT	B1L1041	RC-C
Temperature	11.5	0.0	°C	1.00	12/20/21 14:15	SM 2550B-2010		CDT	B1L1041	RC-C

Sample Number 1121272-08
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 12/20/21 14:10

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
General Chemistry Parameters										
Total Suspended Solids	8.4	2.0	mg/L	2.00	12/21/21 14:30	SM 2540D-2011		SMN	B1L1078	RC-C

Sample Number 1121272-09
Sample Description DHEC C-017 Gills Creek @ Bluff Road collected on 12/20/21 14:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch	Lab
Microbiological Parameters										
E. Coli	471	10	MPN/100 mL	10.0	12/20/21 15:49	SM 9223B-2004		BNE	B1L1107	RC-C



Woolpert Inc. - City of Columbia
2000 Center Point Road Ste 2200
Columbia, SC 29210

Project: Water Quality Testing
Work Order: 1121272
Reported: 01/05/22 17:18

Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

Laboratory Reference:

RC-G = Rogers and Callcott, 426 Fairforest Way, Greenville, SC 29607 / SC Lab ID 23105

RC-C = Rogers and Callcott, 215B Stoneridge Drive, Columbia, SC 29210 / SC Lab ID 40572

CHAIN OF CUSTODY RECORD

WORK ORDER
112122

Mailing Address: PO Box 5655
Greenville, SC 29606
Shipping Address: 426 Fairforest Way
Greenville, SC 29607
215B Stoneridge Drive
Columbia, SC 29210
Phone (864) 232-1556
Phone (864) 232-6140
Fax (864) 232-6140
Phone (803) 509-8999

Client Name	<u>Woolpert – City of Columbia</u>
Address	<u>2000 Center Point Road Suite 2200</u> Columbia, SC 29210

Report To:	<u>Michael Long</u>
Email Address	<u>Michael.long@woolpert.com</u>
Telephone #	803-214-5936

PO #	Project #	Water Quality Testing

[illegible][illegible]

SAMPLER - RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. <i>[Signature]</i>	12/20/21 1525	2. <i>[Signature]</i>	12-20-21 1525
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
3. <i>[Signature]</i>		4. <i>[Signature]</i>	
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
5. <i>[Signature]</i>		6. <i>[Signature]</i>	
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
7. <i>[Signature]</i>		8. <i>[Signature]</i>	

Mailing Address: PO Box 5655
Greenville, SC 29606
Phone (864) 232-1556

Shipping Address: 426 Fairforest Way
Greenville, SC 29607
Fax (864) 232-6140

215B Stoneridge Drive
Columbia, SC 29210
Phone (803) 509-8999

Client Name Woolpert – City of Columbia

Address
2000 Center Point Road Suite 2200

Columbia, SC 29210

Report To: Michael Long

Email Address Michael.Long@woolpert.com

Telephone # 803-214-5936

PO #	Project #	Water Quality Testing

Project # Water C

[illegible]



WORK ORDER 1121272

215B Stoneridge Drive
Columbia, SC 29210
Phone (803) 509-8999

Woolpert – City of Columbia

2000 Center Point Road Suite 2200

Columbia, SC 29210

Report To: Michael Long

Email Address Michael.long@woolpert.com

Telephone # 803-214-5936

PO # _____ Project # Water Quality Testing

[illegible]

SAMPLER - RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
1. <i>Q. Q. Q.</i>	12/26/21 1508	2. <i>St. M.</i>
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
3.		4.
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
5.		6.
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
7.		8.

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Possible Hazards associated with samples:

☐ Non-Hazard ☐ Flammable

○ Skin Irritant

O Poison

Unknown

☐ Other _____

Form Revised March, 2019 Page ____ of ____

[illegible]



Columbia Sample Receipt Verification

Client: Wolpert Date Received: 12.20.21 Work Order: 1121272

Carrier Name: (to Columbia)	Client	FedEx	UPS	US Mail	Courier	<u>Field Services</u>	Other: _____
Tracking Number: _____							

Carrier Name: (to Greenville)	Client	FedEx	UPS	US Mail	Courier	Field Services	Other: _____
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Receipt Criteria	Y e s	No	N A	Comments
Shipping container / cooler intact?	☒			Damaged Leaking Other: _____
Custody seals intact?			☒	
COC included with samples?	☒			
COC signed when relinquished and received?	☒			
Sample bottles intact?	☒			Damaged Leaking Other: _____
Sample ID on COC agree with label on bottle(s)?	☒			
Date / time on COC agree with label on bottle(s)?	☒			
Number of bottles on COC agrees with number of bottles received?	☒			
Samples received within holding time?	☒			
Sample volume sufficient for analysis?	☒			
VOA vials free of headspace (<6mm bubble)?			☒	
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.			☒	
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.	☒			
Samples cooled when received in Columbia ?				<u>Ice</u> Cold Packs Dry Ice None
Temp at time of receipt <u>3.2</u> °C	☒			
Temp measured with IR SN: 36301069WS				

If in-house preservation used – record Lot #			
HCL		H ₃ PO ₄	
H ₂ SO ₄		NaOH	
HNO ₃		Other	

Comments:

Were non-conformance issues noted at initial sample receipt?	Yes	or	<u>No</u>
Non-Conformance issue other than noted above:			